Framework for Registration, Classification, and evaluation of errors in the Forensic DNA Typing Process

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of ineffective and effective root cause analysis will be presented. Attendees will learn the process of asking “why” five times to get to the source of the non-conformance. In addition, participants will learn why “blaming the individual” is missing the point of the root cause process.

Forensic specific examples provided will include contamination in postmortem drug analysis cases after incomplete cleaning of a blender carafe and the Federal Bureau of Investigation (FBI) laboratory’s review of compositional bullet lead analyses cases. These examples will demonstrate how a thorough root cause analysis benefits the laboratory organization, the laboratory employees, and the laboratory customers.

Root cause analysis is a skill that must be learned, a process that requires continuous improvement, and a process that will require resources. It’s too costly, some might say. Are you willing to accept the risk of not doing root cause analysis well?

“A bad system will beat a good person every time.” ~W.

Edwards Deming

Root Cause Analysis, Continuous Improvement, Corrective Action

W13 Framework for Registration, Classification, and Evaluation of Errors in the Forensic DNA Typing Process

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The goals of this workshop are to encourage participants to accurately and truthfully record and document quality issues in their own forensic DNA laboratory and to teach attendees how to deal with such issues in the context of a case. A proper way to deal with errors is an essential tool to further improve on everyday forensic practice.

This presentation will impact the forensic science community by explaining how the precise magnitude of the error rate in forensic DNA typing is difficult to estimate, with the principal reason being the lack of a universally accepted definition of error in the professional society of forensic DNA typing laboratories.

Although DNA analysis is considered as one of the most reliable forensic tools available today, errors can be made during the course of the analysis. As this has a huge impact on the evidential value of a DNA match, there is a growing interest for actual data on the accuracy and error rates of forensic analyses and a more refined analysis of different types of errors and their causes.1

In the report Strengthening Forensic Science in the United States: A Path Forward, the National Academy of Sciences refers to error rates as misidentifications: “proportions of cases in which the analysis led to a false conclusion (as the percent of incorrectly identified cases among all those analyzed).2 The error rate includes both type 1 errors (wrongful reported match) and type 2 errors (wrongful reported exclusion). A major limitation of this approach is that the majority of errors in the DNA typing process do not lead to a misidentification. The consequence is that the majority of errors and near failures in the typing process will not be registered and will potentially stay undetected. The precise magnitude of the error rate in forensic DNA typing is therefore difficult to estimate, with the principal reason being the lack of a

References:
2. www.qualityonline.com

Error Rates, DNA, Laboratory Management

W14 Postmortem Monocular Indirect Ophthalmoscopy

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The goals of this presentation are to: (1) differentiate between direct and indirect ophthalmoscopy, noting advantages and limitations of each technique for the postmortem detection of fundal hemorrhages; (2) discuss the fundal location of retinal hemorrhages relative to their projected aerial image during monocular indirect ophthalmoscopy; and, (3) on a fundal diagram,